The Influence of Baby Massage on the Sleep Quality of Babies Aged 6-7 Months in Percut Village in 2021

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Abstract

Sleep disorders in babies are a form of problems faced by parents. Baby massage is an alternative effort to help relieve muscle tension so that the baby calms down and falls asleep. This study aims to determine whether there is an effect of infant massage on sleep quality in infants aged 6-7 months in Percut Village, Percut Sei Tuan District, Deli Serdang Regency. This study used an experimental analytic method without a control group using a pre-test and post-test one group design. This research was conducted in Percut Village, Percut Sei Tuan District, Deli Serdang Regency, North Sumatra Province, Indonesia. When this research was carried out from March 2021 to July 2021. The sampling technique in this study used total sampling, namely by using the entire population as a research sample of 30 babies. The research instrument uses a data collection tool in the form of a questionnaire. Data analysis used the Paired Sample T-Test using a computer device, namely Statistical Package For The Social Science (SPSS 16). The results of the study are that there is a significant effect between baby massage on the sleep quality of babies aged 6-7 months in Percut Village, Percut Sei Tuan District, Deli Serdang Regency, with p-value = <0.001 (α<0.05). Based on these results, it is recommended for health service workers to motivate parents to massage their babies regularly, especially for nurses to be more professional and skilled in the field of baby care and increase collaboration with other medical personnel in carrying out health education among the wider community about the benefits of baby massage. on sleep quality in infants.

Keywords : Baby Massage, Infant, Sleep Quality

INTRODUCTION

Sleep disorders in babies are a form of problems faced by parents (Agustina et al., 2022). Based on research by Yang et al., (2020) recorded about 33% of babies experience sleep problems. Sleep quality is a physiological state that can restore brain cells to their original state when they wake up. Good sleep quality is aimed at getting enough hours of sleep, getting to sleep easily at night, and not being fussy. Baby massage is done 4-5 times in 1 month (Rambe, 2019).

Infancy is a golden period for the growth and development of children so it needs special attention. One of the factors that affect the growth and development of the baby is sleep and rest. A good night's sleep is very important for the growth of the baby, because during sleep the growth of the baby's brain reaches its peak. In addition, during sleep the baby's body

produces three times more growth hormone than when the baby is awake, but there are still many babies who experience sleep disturbances (Nurmalasari et al., 2017).

Based on data *World Health Organization* (WHO) in 2018 in the journal Pediatrics, it was recorded that around 40% of babies had sleep disturbances (Sulfianti et al., 2022). In Indonesia, quite a lot of babies have sleep problems, which is around 44.2%. However, almost or even more than 72% of parents do not perceive sleep disturbances in babies as a problem (Permata, 2017). Babies after being massaged show an increase in the quality of their sleep, this is because a gentle massage will help relieve muscle tension so that the baby calms down and falls asleep (Rangkuti, 2021).

Massage stimulates hormones in the body, a substance that regulates functions such as appetite, sleep, memory and learning, regulates temperature, mood, behavior, blood vessel function, muscle contraction, regulates the endocrine system (regulates metabolism, growth and puberty). and depression. Baby massage can also increase baby's weight, help babies who can't sleep well, lack of appetite, and can't concentrate (Prasetyono,2013). Baby massage does not only affect weight gain, baby massage can also increase growth, and can affect the quality of baby sleep because baby massage can make babies sleep more soundly (Zaen et al., 2019).

Sleep and rest are one of the factors that affect the growth and development of children because when the baby is asleep, growth hormone is secreted three times more than when the baby is awake (Tang, 2018). Baby massage can be effectively used as a way to strengthen bonds and improve the quality of sleep for babies aged 3-6 months (Hartanti et al., 2019). Parents can do baby massage at home regularly because it is proven to be an effective way to improve the quality of baby's sleep (Sukmawati et al., 2020).

According to research Tang (2018) which shows that there is a significant effect of giving baby massage on the quality of sleep for babies aged 1-4 months where the quality of sleep for babies after massage increases, namely the bad category 0%, quite good 26.7% and good 73.3% while before massage the category is bad 6.7%, 60% good enough and 33.3% good. Research Pratiwi (2021) states that there is an effect of massage on the sleep quality of infants aged 1-6 months at Kiddie Mom and Baby Care (p-value = 0.000). Research states that there is an effect of baby massage on the sleep quality of babies aged 0-6 months (Sinaga et al., 2020).

Researchers conducted a preliminary survey in Percut Village, Percut Sei Tuan District, Deli Serdang Regency. Based on a survey conducted by researchers from March 24 to March 30 2021, it was found that the number of mothers who had children aged 6-7 months was 30 people. Based on the results of interviews with 30 mothers who had children aged 6-7 months,

researchers found that based on the survey, 28 mothers said they had never massaged their babies. The baby's mother said she had never done baby massage because the baby's mother was afraid of getting the wrong massage because she did not understand massage techniques. The baby's mother also said that her baby was fussy before going to bed, often waking up at night. This is also because the parents are busy with work outside the home so they don't pay attention to the baby and the baby's sleep patterns. So that the application of baby massage is not implemented in the community, especially in Percut Village, Percut Sei Tuan District, Deli Serdang Regency. Meanwhile, two mothers said they knew enough about baby massage, the benefits of baby massage, and the purpose of baby massage, so their children rarely get sick like colic, not fussy when going to sleep, and also more active.

Based on the description above, the researcher is interested in knowing the effect of infant massage on sleep quality for infants aged 6-7 months in Percut Village, Percut Sei Tuan District, Deli Serdang Regency.

METHODS

This research is quantitative using experimental analytic methods without a control group using pre-test and post-test one group design, namely the researcher intervenes on only one research object, by conducting tests before and after carrying out the intervention. (Rukminingsih et al., 2020). This research was conducted on people living in Percut Village, Percut Sei Tuan District, Deli Serdang Regency, North Sumatra Province, Indonesia. The time of this research was conducted from March 2021 to July 2021.

The population in this study were all infants aged 6 to 7 months, as many as 30 people who live in Percut Village, Percut Sei Tuan District, Deli Serdang Regency. The sampling technique was carried out by means of total sampling, namely by using the entire population as the research sample, namely as many as 30 people. The criteria in this study were babies aged 6-7 months who lived in Percut Village, Percut Sei Tuan District, Deli Serdang Regency. Babies were in good health.

The research instrument uses a data collection tool in the form of an examination sheet. Where the examination sheet contains the baby's name, age, sleep quality. Data analysis using Bivariate analysis Two Mean (T) Dependent Test (Paired Sample T Test) or pair test to test the differences in two groups of dependent data using a computer device, namely Statistical Package For The Social Science (SPSS) version 16.

RESULTS

Data on the characteristics of the respondents who became the sample in this study can be seen in table 1 below.

Table 1. Frequency Distribution and Percentage of Respondents Infants Aged 6-7 Months in Percut Village, Percut Sei Tuan District, Deli Serdang Regency in 2021

Variable	Frequency	%
Age		
6 months	19	63,33
7 months	11	36,67
Total	**30**	**100**
Gender		
Male	20	66,67
Female	10	33,33
Total	**30**	**100**

From table 1 above it can be seen that the number of babies aged 6 months in Percut Village, Percut Sei Tuan District, Deli Serdang Regency in 2021 was 19 people (63.33%) while there were 11 babies aged 7 months (36.67%)). The number of baby boys aged (6-7) months in Percut Village, Percut Sei Tuan District, Deli Serdang Regency in 2021 was 20 people (66.67%) while baby girls aged 6-7 months were 10 people (33.33 %).

Distribution of Pre-Test Frequency of the Effect of Infant Massage on Sleep Quality for Infants Aged 6-7 Months in Percut Village, Percut Sei Tuan District, Deli Serdang Regency in 2021, can be seen in Table 2. below.

Table 2. Pre-Test Frequency Distribution of the Effect of Baby Massage on Sleep Quality for Infants Aged 6-7 Months in Percut Village, Percut Sei Tuan District, Deli Serdang Regency in 2021

Baby Sleep Quality	Frequency	%
Normal Baby Sleep Quality	0	0
Abnormal Baby Sleep Quality	30	100
Total	**30**	**100**

From table 2 above, it was found that (Pre-Test) 30 people (100%) had abnormal sleep quality, 0 people (0%) had normal sleep quality.

Post-Test Frequency Distribution of the Effect of Infant Massage on Sleep Quality for Infants Aged 6-7 Months in Percut Village, Percut Sei Tuan District, Deli Serdang Regency in 2021, can be seen in Table 3 below.

Table 3. Post-Test Frequency Distribution of the Effect of Baby Massage on Sleep Quality for Infants Aged 6-7 Months in Percut Village, Percut Sei Tuan District, Deli Serdang Regency in 2021

Baby Sleep Quality	Frequency	%
Normal	28	93,33
Abnormal	2	6,67
Total	**30**	**100**

From table 3 above, it was found that after giving Baby Massage (Post-Test) there were 2 babies whose sleep quality was abnormal (6.67%), 28 people (93.33%) had normal sleep quality.

The average distribution of Infant Massage Levels before (Pre-Test) and after (Post-Test) on Sleep Quality for Infants Aged 6-7 Months in Percut Village, Percut Sei Tuan District, Deli Serdang Regency in 2021, can be seen in Table 4. below this.

Table 4. Effect of Infant Massage Levels before (Pre-Test) and after (Post-Test) on Sleep Quality for Infants Aged 6-7 Months in Percut Village, Percut Sei Tuan District, Deli Serdang Regency in 2021

Baby massage	Mean	SD	SE	p-value	N
Before baby massage	11,50	1,137	0,20	<0,001	30
After baby massage	14,50	0,50	0,09		

From table 4 above, it was found that the average before the baby massage in the first measurement was 11.50 with a standard deviation (SD) of 1.37. In the second measurement, the average after the baby massage was 14.50 with a standard deviation of 0.50. It can be seen that the mean difference between before the baby massage and after the baby massage is 3 with a standard deviation of 0.50. The results of statistical tests can be concluded that there is a significant effect between baby massage before and after baby massage on the sleep quality of infants aged 6-7 months in Percut Village, Percut Sei Tuan District, Deli Serdang Regency p-value=<0.001 ($\alpha < 0.05$).

DISCUSSION

Effect of Baby Massage on Sleep Quality

Baby Massage is one type of stimulation that will stimulate the development of the structure and function of the work of cells in the brain. Gentle massage will help relax the muscles so that the baby becomes calm and sleeps soundly. A gentle touch on a baby is a beautiful means of bonding between a baby and its parents. Babies who are massaged for about 15 minutes will feel more relaxed, sleep more soundly, their development and growth will also be better. When the baby is massaged, endorphin hormones will appear which will increase the growth and development of the baby and serotonin hormones which will make the baby more comfortable and grow better (Nurhudhariani et al., 2021).

Baby massage is effective in improving the quality of baby sleep. Baby massage also improves the adjustment of circadian rhythms in baby sleep with a full-term baby's nocturnal period. Baby massage can reduce baby crying. Baby massage done for two weeks showed that bedtime became easier and the baby experienced fewer awake nights. Babies in the massage

group had more regular sleep cycles than babies in the non-massage group (Sukmawati et al., 2020).

According to Nughraheni et al., (2018) normal sleep time for babies ranges from 10-15 hours a day, while the average sleep time for babies before a baby massage is 7-9 hours a day, so from these data the quality of sleep and sleep time for babies is still lacking.

The results showed that the average before the baby's massage in the first measurement was 11.50 with a standard deviation (SD) of 1.37. In the second measurement, the average after the baby massage was 14.50 with a standard deviation of 0.50. It can be seen that the mean difference between before the baby massage and after the baby massage is 3 with a standard deviation of 0.50. The results of statistical tests can be concluded that there is a significant effect between baby massage before and after baby massage on the sleep quality of infants aged 6-7 months in Percut Village, Percut Sei Tuan District, Deli Serdang Regency a p-value=<0,001 (α<0,05).

The results of this study are in line with research Sulistyowati et al., (2022) which states that there is a significant relationship with the value of p = 0.000 <0.05. This means that baby massage affects the quality of baby sleep in Matesih Village, Matesih District, Karanganyar Regency. This is because babies who are massaged when they wake up are not fussy and feel fit. After the baby massage is done, the average baby sleeps more than 12 hours a day and is not fussy. It's the same with research Istikhomah (2020) There is also the effect of baby massage on the sleep duration of infants aged 3-6 months in Jemawan Village, Jatinom District, Klaten Regency. The duration of sleep for 3-6 months after massage (post-test) obtained the most normal results, 13-15 hours.

Research Anggraini et al, (2020) states that there is an effect of baby massage on the sleep quality of infants aged 0-6 months, where there is a significant difference, namely an increase in the quality of sleep in infants who are massaged 3 times a week for 2 weeks. This is because the quality of the baby's sleep will get better after being given regular baby massage, by massaging the baby regularly can improve the quality of the baby's sleep. So babies who have sleep disorders should be given baby massage regularly so they don't experience sleep disturbances. Research Nurhudhariani et al., (2021) there is a significant effect of the baby gym treatment on the sleep quality of infants aged 3-6 months in Talang Village, Talang District, Tegal Regency.

This is also similar to research Suryati et al., (2019) which stated that there was a significant effect on giving infant massage measures aged 3-10 months in Tamanan Village, the Working Area of the Banguntapan II Health Center, because these respondents had been

given infant massage therapy 6 times within 2 weeks, so that the baby became more relaxed and could improve sleep quality. The p-value results show that there is an effect of baby massage on sleep quality with sig. 0.001 (Nasution et al., 2021). Research Korompis et al., (2019) stated that there were differences in improving the quality of sleep before and after being given massage care babies. Thus, it means that there is an influence between giving baby massage care and the quality of baby sleep.

Baby massage affects the quality of sleep for babies aged 3-6 months at Posyandu in Ranjuango Village, working area of the Cipanas Garut Health Center in 2021, with a p-value =0.000. This is because baby massage is very good and important to do considering the importance of sleep time for baby's growth and development. Thus, the quality of sleep must be fully met without affecting their growth and development (Suralaga et al., 2022). The higher a person's educational level, the easier it is to understand information and easier to implement their knowledge in behavior, especially in terms of health (Emryssyah, 2021).

Supported by the theory which states that baby massage has very positive benefits including increasing the baby's concentration and making the baby sleep soundly. Based on the results of the research, the sleep quantity of all respondents after the baby massage has increased. The increase in the quantity of sleep in infants who were given the massage was caused by an increase in the secretion of serotonin levels produced during the massage. Serotonin is the main transmitter substance that accompanies the formation of sleep. At the time of the massage also secretes Melatonin which has a role in sleep and makes you sleep longer and deeper at night, because more melatonin is produced in the dark when the light entering the eye is reduced (Akib et al., 2018).

The importance of sleep time for the development of the baby, then the need for sleep must really be met so as not to adversely affect its development. One way that can be used to meet these needs is with baby massage. Babies who are massaged will be able to sleep soundly, while when they wake up, their concentration power will be fuller. One of the non-pharmacological therapies to overcome baby's sleep problems is baby massage (Irianti et al., 2021).

In the opinion of researchers, baby massage can improve the quality of sleep in babies. The baby will feel more relaxed after the baby's muscles are massaged and given a gentle touch. Regular massage will make the baby sleep deeper so that the next morning he will wake up calmer.

CONCLUSIONS

Based on the results of the analysis and discussion of the Effect of Baby Massage on Sleep Quality for Infants Aged 6-7 Months in Percut Village, Kec. Percut Sei Tuan Kab. Deli Serdang it can be concluded that before giving baby massage there were 30 people (100%) experiencing abnormal sleep quality in babies. After giving baby massage, there were 28 babies (93.67%) who experienced an increase in the quality of their sleep and 2 babies (6.67%) who did not experience an increase in the quality of their sleep. The statistical test results showed that there was an effect of baby massage on the sleep quality of infants aged 6-7 months in Percut Village, Percut Sei Tuan District, Deli Serdang Regency (p-value= 0.001;$\alpha<0.05$).

Researchers hope that health workers can provide socialization about baby massage and mothers can then apply baby massage well in their babies' daily lives in order to achieve optimal baby sleep quality, and health workers are expected to be able to develop knowledge and practice of baby massage as a means of stimulation. growth and development of children considering the benefits of baby massage both for sleep quality which is closely related to the health and development of children.

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